



Baltic Earth Special Issue in *Earth System Dynamics* on

“Multiple drivers for Earth System changes in the Baltic Sea region”

Editors

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Objective

The goal of Baltic Earth (www.baltic.earth) is to achieve an improved Earth system understanding of the Baltic Sea region, encompassing processes in the atmosphere, on land and in the sea, as well as processes and impacts related to the anthroposphere, i.e. the human impact is to be assessed at all levels wherever possible and reasonable. Recent research has shown that the observed environmental changes are often caused by a mixture of interwoven factors, among them climate change and its associated impacts, eutrophication, pollution, fisheries, land cover change and others. Each of these factors has a scientific and a societal dimension, which are often interdependent, and which makes the identification of a single or even dominant factor responsible for the change difficult.

The scope of this special issue is to attempt to describe the different factors for change, their impacts on the Earth system of the Baltic Sea region, and to demonstrate the capacity to model any of these factors in a single or a coupled approach. Are we able to simulate the observed changes in a realistic way? Are we able to produce credible scenarios for the future? Ultimately, this analysis should help to identify knowledge gaps and research needs for the coming years, to help find solutions for the challenges we face in the future.

The special issue goes back to the 1st Baltic Earth Conference, held in Nida, Lithuania, 13-17 June 2016, which brings together the Baltic Earth research community to share and discuss issues related to the general conference topic “Multiple drivers for Earth System changes in the Baltic Sea region “.

Contributions

Topics for contributions to this special issue are based on the conference topics (www.baltic.earth/nida2016) and the Baltic Earth scientific Grand Challenges (www.baltic.earth). Interdisciplinary contributions and contributions dealing with the "Multiple drivers" topic of the conference, including the role of humans, are especially welcome.

Topics

- Salinity dynamics in the Baltic Sea
- Land-Sea-Atmosphere biogeochemical feedbacks in the Baltic Sea region
- Natural hazards and high impact events in the Baltic Sea region
- Sea level dynamics, coastal morphology and erosion at the Baltic Sea
- Regional variability of water and energy exchanges in the Baltic Sea region
- Regional climate system modeling in the Baltic Sea region
- Multiple and interrelated drivers of environmental changes in the Baltic Sea region

Contributions related to any of these scientific fields are welcome, also from outside of the conference programme. In addition, we welcome such contributions from similar sea and coastal regions around the world, e.g. the North Sea, the Mediterranean, the Black Sea, the Chesapeake Bay or the Bo Hai and Huang Hai sea areas. However, these contributions should have an interdisciplinary focus on the conference topic and should in some way be related (or compared) to the Baltic Sea region. Contributions from the Baltic Sea region have priority.

Special issue open period for submission

1 September – 31 December 2016